Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Canceled)

2. (Currently Amended) ~~The wavelength multiplexing on-chip optical interconnection circuit~~ The optical interconnection circuit according to claim 16,

the ~~circuit blocks~~ first circuit block and the second circuit block being optically and electrically connected to each other.

3. (Currently Amended) ~~The wavelength multiplexing on-chip optical interconnection circuit~~ The optical interconnection circuit according to claim 16,

at least a part of the optical waveguide being provided on top surfaces of the ~~circuit blocks.~~first circuit block and the second circuit block.

4. (Currently Amended) ~~The wavelength multiplexing on-chip optical interconnection circuit~~ The optical interconnection circuit according to claim 16,

at least a part of the optical waveguide being provided on the ~~circuit blocks~~ first circuit block and the second circuit block to traverse the ~~circuit blocks.~~first circuit block and the second circuit block.

5. (Currently Amended) ~~The wavelength multiplexing on-chip optical interconnection circuit~~ The optical interconnection circuit according to claim 16,

at least a part of the optical waveguide being provided to detour around ~~the circuit blocks.~~a third circuit block.

6. (Currently Amended) ~~The wavelength multiplexing on-chip optical interconnection circuit~~ The optical interconnection circuit according to claim 16, ~~further comprising:~~

~~at least one of a light emitting element and a light receiving element being electrically connected to each of the circuit blocks,~~

~~the light emitting element emitting a light component having a predetermined wavelength into the optical waveguide, and~~

~~the light receiving element receiving a light component having a predetermined wavelength from the optical waveguide.~~

the first element being electrically connected to the first circuit block,

the third element being electrically connected to the second circuit block,

the second element being electrically connected to the first circuit block or the second circuit block, and

the fourth element being electrically connected to the first circuit block or the second circuit block.

7. (Canceled)

8. (Currently Amended) ~~The wavelength multiplexing on-chip optical interconnection circuit~~ The optical interconnection circuit according to claim 16,

at least a part of the optical waveguide covering being at least one of the ~~first micro-tile shaped elements~~ first element and ~~the second micro-tile shaped elements.~~the third element.

9. (Currently Amended) ~~The wavelength multiplexing on-chip optical interconnection circuit~~ The optical interconnection circuit according to claim 16,

the ~~circuit blocks~~ first circuit block and the second circuit block being any one of a CPU, a memory circuit, a DSP, an RF amplifying circuit, an image sensor, and a bio sensor, and

the optical waveguide being a transmission line of data signals or clock signals.

10-11. (Canceled)

12. (Currently Amended) ~~The wavelength multiplexing on-chip optical interconnection circuit~~ The optical interconnection circuit according to claim 16,

a plurality of the integrated circuit chips being mounted on a substrate, and

the plurality of integrated circuit chips being optically connected to each other at least through the ~~micro-tile shaped elements having a light emitting function or a light receiving function~~ first element and the third element and the optical waveguide provided on the substrate.

13. (Previously Presented) The wavelength multiplexing on-chip optical interconnection circuit according to claim 16,

a plurality of the integrated circuit chips being mounted on a substrate,

the integrated circuit chips being tightly bonded to each other, and

the integrated circuit chips being optically or electrically connected to each other.

14. (Currently Amended) An electro-optical device, comprising:

~~the wavelength multiplexing on-chip optical interconnection circuit~~ the optical interconnection circuit according to claim 16.

15. (Currently Amended) An electronic apparatus, comprising:

~~the wavelength multiplexing on-chip optical interconnection circuit~~ the optical interconnection circuit according to claim 16.

16. (Currently Amended) An optical interconnection circuit, comprising:

an integrated circuit chip;

~~a first circuit block that is provided on the integrated circuit chip, the first circuit block including a first light emitting element;~~

~~a second circuit block that is provided on the integrated circuit chip, the second circuit block including a first light receiving element; and~~

a first circuit block and a second circuit block provided on the integrated circuit chip, the first circuit block and the second circuit block including a plurality of elements each of which has a light emitting function or a light receiving function;

an optical waveguide that is provided on the integrated circuit chip, the optical waveguide optically connecting the ~~first light emitting element and the first light receiving element.~~plurality of elements,

a first element of the plurality of elements emitting a first light,

a second element the plurality of elements emitting a second light,

a third element of the plurality of elements receiving the first light,

a fourth element of the plurality of elements receiving the second light,

a wavelength of the first light emitted by the first element being different from a wavelength of the second light emitted by the second element,

the first circuit block including the first element,

the second circuit block including the third element,

the first circuit block or the second circuit block including the second element, and

the first circuit block or the second circuit block including the fourth element.

17. (Currently Amended) The optical interconnection circuit according to claim 16, ~~wherein:~~

~~the first circuit block further including a second light emitting element,~~

~~the second circuit block further including a second light receiving element,~~

~~the optical waveguide optically further connecting the second light emitting element and the second light receiving element,~~

~~a wavelength of a first light emitted by the first light emitting element being different from a wavelength of a second light emitted by the second light emitting element,~~

~~the first light receiving element receiving the first light, and~~

~~the second light receiving element receiving the second light.~~

the first circuit block including the second element and the second circuit block including the fourth element.

18. (Currently Amended) The optical interconnection circuit according to claim 16, ~~wherein:~~

~~the first circuit block further including a second light receiving element,~~

~~the second circuit block further including a second light emitting element,~~

~~the optical waveguide optically further connecting the second light emitting element and the second light receiving element,~~

~~a wavelength of a first light emitted by the first light emitting element being different from a wavelength of a second light emitted by the second light emitting element,~~

~~the first light receiving element receiving the first light, and~~

~~the second light receiving element receiving the second light.~~

the second circuit block including the second element and the first circuit block including the fourth element.

19. (Previously Presented) An optical interconnection device, the device comprising:

a first light emitting element that emits a first light;

a second light emitting element that emits a second light whose wavelength is different from a wavelength of the first light; and

an optical waveguide that transmits the first light and the second light.

20. (Previously Presented) The optical interconnection device according to claim 19, wherein the first light emitting element and the second light emitting element being included in a first circuit block that includes a first circuit driving the first light emitting element and a second circuit driving the second light emitting element.

21. (Previously Presented) The optical interconnection device according to claim 19, wherein:

the first light emitting element being included in a first circuit block that includes a first circuit driving the first light emitting element, and

the second light emitting element being included in a second circuit block that includes a second circuit driving the second light emitting element.

22. (Currently Amended) The optical interconnection device according to claim 20, further comprising:

a first light receiving element that receives the first light; and

a second light receiving element that receives the second light, wherein:

the first light ~~emitting~~ receiving element and the second light ~~emitting~~ receiving element being included in a second circuit block that includes a third circuit driving the first light receiving element and a fourth circuit driving the second light receiving element,

the first light emitting element and the first light receiving element being optically connected through the optical wave guide, and

the second light emitting element and the second light receiving element being optically connected through the optical waveguide.

23. (Currently Amended) The optical interconnection device according to claim 21, further comprising:

a first light receiving element that receives the second light; and

a second light receiving element that receives the first light, wherein:

the first light emitting element being included in the first circuit block that includes a third circuit driving the first light receiving element,

the second light emitting element being included in the second circuit block that includes a fourth circuit driving the second light receiving element,

the first light emitting element and the second light receiving element being optically connected through the optical waveguide, and

the second light emitting element and the first light receiving element being optically connected through the optical waveguide.